



Performance Standard		7312
Effective April 1, 2018	Expires March 31, 2019	
Category I Skill – Low Frequency/High Risk: Rescue Airway Insertion	Approval: Medical Director Reza Vaezazizi, MD	Signed
Applies To: AEMT, PM, MICN, BHP, EMS System	Approval: REMSA Director Bruce Barton	Signed

Terminal Performance Objective

Secure placement of a Rescue Airway in the trachea to facilitate positive pressure ventilation.

Before performing insertion of a Rescue Airway, AEMTs and paramedics must:

1. Determine BLS airway adjuncts are inadequate for effective positive pressure ventilation (PPV) and confirm the need for ALS airway placement.
2. Recognize signs of a difficult airway and select, prepare and employ the appropriate Rescue Airway and techniques.
 - a. A difficult airway is defined as the presence of anatomic conditions which preclude direct visualization of the patient’s glottic opening (e.g. airway edema, scoliosis of the spine, significant overbite, small mandible, short neck, morbid obesity, cervical spine immobilization, face or neck trauma).
3. Correctly assemble all equipment required for Rescue Airway insertion within 60 seconds.
4. Ensure optimal ventilation and oxygenation of the patient while Rescue Airway equipment is prepared.

While performing insertion of a Rescue Airway, AEMTs and paramedics must:

1. Minimize oral trauma during insertion by utilizing correct technique.
2. Place the appropriately sized Rescue Airway securely per the manufacturer’s instructions in the hypopharynx at the correct depth within 30 seconds.
3. Immediately re-establish PPV with the appropriate rate and tidal volume (minute volume) and oxygen at 10-15 LPM following Rescue Airway placement.
4. Confirm correct placement:
 - a. IMMEDIATELY attach waveform capnography and commence gentle bagging while confirming proper airway placement.
 - b. Confirm appropriate rectangular waveform is present (paramedics).
 - c. Auscultate lung fields and epigastrium.
 - d. Print strip of capnogram and retain for documentation.
 - e. Observe for appropriate chest rise and fall.
5. Secure the Rescue Airway at the correct depth per the manufacturer’s directions.
6. Stabilize the patient’s airway and prevent tube migration by using a device to prevent rotation, flexion, or extension of patient’s head.
7. Efficiently employ post Rescue Airway diagnostic tools to thoroughly assess overall effectiveness of ventilatory support throughout the duration of respiratory management efforts, including:
 - a. Visualization of symmetrical rise and fall of the chest with PPV.
 - b. Monitor pulse oximetry – the target SpO₂ is greater than 95% if spontaneous circulation is present.
 - i. In patients with COPD/pulmonary disease, it may not be possible or desirable to attain a SpO₂ of 95%.
 - c. Monitor PETCO₂ for appropriate waveform morphology and target CO₂ levels (paramedics).
 - i. The target range for PETCO₂ level is between 30 – 45 mmHg if spontaneous circulation is present.
 - ii. In cardiac arrest, metabolic derangements will significantly alter PETCO₂ values and waveform morphology. Target range for PETCO₂ level is between 15mmHg – 45mmHg during CPR.
 - iii. Recognize that in a patient with traumatic brain injury, PETCO₂ less than 35 mmHg due to hyperventilation may actually cause harm. Minute volume should be adjusted accordingly while

maintaining optimal oxygenation, reserving hyperventilation for those patients showing signs of cerebral herniation only.¹

- d. Monitor ECG (paramedics) for dysrhythmia due to vagal stimulation or other treatable causes.
 - e. Frequent auscultation of lung fields and epigastrium.
 - f. Constant evaluation of ventilatory compliance and resistance during PPV.
8. Re-implement effective PPV within 10 seconds following unsuccessful Rescue Airway placement attempts.
 - a. Rapidly transport patients to the closest Emergency Department when Rescue Airway placement is unsuccessful and airway patency is not secure.
 9. Immediately identify malfunctioning equipment, ineffective techniques or changes in post placement PPV compliance/resistance and employ alternative measures to achieve effective ventilations.
 10. Reassess Rescue Airway placement each time the patient is moved and before transfer of care to hospital staff.
 - a. Record and print the waveform PETCO₂ strip prior to transfer of care to the hospital staff and attach the recording strip to the completed PCR.
 11. Provide direction to personnel that have been delegated management of post-Rescue Airway PPV.
 12. Maintain effective ventilation and oxygenation throughout the entire prehospital treatment period.
 13. Maintain calm and effectively lead a team-based approach to resuscitation under all conditions.
 14. Accurately document all assessment findings, therapeutic treatments and the patient's response to therapy.

Critical Success Targets for use of a Rescue Airway

1. Rescue Airway securely placed in the trachea followed by effective PPV
2. Chest rise and fall with each ventilation cycle
3. Ventilatory rate and tidal volume (minute volume) appropriate for patient condition and response
4. SpO₂ of greater than 95% in patients with spontaneous circulation
5. Limited interruption of PPV (30 seconds maximum)
6. Evaluation and Documentation of PETCO₂ morphology and values (paramedics)

System Benchmark

Rescue Airway securely placed in the trachea within 2 attempts in 98% of the indicated patients.

Applicable Protocols

The REMSA Policy for Treatment of the Universal Patient, and any other policy authorizing insertion of a rescue airway.

Core Competency Requirements to be covered during education/training on Rescue Airway

1. Respiratory A&P and Pathophysiology
2. Assessment of airway and breathing
3. Techniques for PPV
4. Airway pressure secondary to PPV – mean versus peak
5. Possible complications of PPV – gastric, pulmonary, cerebral, and cardiovascular complications of over-inflation and over-ventilation
6. Determination of PPV adequacy and efficacy. Note that greater tidal volume may be necessary due to greater dead space in use of Rescue Airways.
7. Differentiation between effective and ineffective patient response to PPV via BLS measures
8. Indications for use of a Rescue Airway
9. Selection of correct equipment required for insertion of a Rescue Airway
10. Identification of the difficult airway and employment of alternative techniques for airway management
11. Rescue Airway placement techniques
12. Post-placement airway monitoring
13. Auscultation and diagnostic differentiation of lung sounds
14. Use of diagnostic tools, e.g., capnography

¹ The Brain Trauma Foundation's Guidelines for Prehospital Management of Severe Traumatic Brain Injury, Second Edition, Sections IV and VI

15. Recognition of complications (**D**islodgement, **O**bstruction, **P**neumothorax, **E**quipment Failure, or **DOPE**)
16. Team Leadership and Patient Safety
17. Documentation

Adjunctive Performance Standards

1. Positive Pressure Ventilation
2. Laryngoscopy with FBAO Removal/Magill forceps
3. BLS Airway Adjuncts
4. ALS Airways

Equipment Requirements

1. Personal Protective Equipment
2. Adult Airway mannequin
3. NP/OP Airways
4. BVM with manometer and reservoir
5. King Airway(s)
6. Stethoscope
7. Supplemental oxygen
8. Magill forceps (paramedics)
9. Laryngoscope(s) (paramedics)
10. Pulse oximeter
11. Waveform capnography (paramedics)
12. Suction device (both rigid and flexible catheters)
13. Cardiac monitor (paramedics)
14. Difficult Airway Kit (paramedics) / Rescue Airway Kit (including just in time training aids)

Instructor Resource Materials

1. Prehospital Trauma Life Support, Seventh Edition
2. AHA CPR and BLS Provider Manual
3. AHA ACLS Provider Manual
4. AHA PALS Provider Manual
5. Current AHA Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care
6. NHTSA EMS Educational Instructor Guidelines for EMT and Paramedic
7. Adjunct specific manufacturer guidelines for use

Rescue Airway Insertion Validation

PERFORMANCE CRITERIA: 100% accuracy required on all items marked with an *

Before performing insertion of a Rescue Airway, the AEMT or paramedic must:

Points	Score	Performance Steps	Additional Information
1		Take or verbalize body substance isolation.	Selection: gloves, goggles, mask, gown, booties, P100 PRN
1		Determine BLS airway adjuncts are inadequate for effective positive pressure ventilation (PPV) and confirm the need for ALS airway placement. *	
1		Recognize signs of a difficult airway and select, prepare, and employ the appropriate Rescue Airway and techniques. *	<ul style="list-style-type: none"> • A difficult airway is defined as the presence of anatomic conditions which preclude direct visualization of the patient's glottis opening. • Signs of a difficult airway include, but are not limited to <ul style="list-style-type: none"> ○ Airway edema ○ Arthritis or scoliosis of the spine ○ Significant overbite ○ Small mandible ○ Short neck ○ Morbid obesity ○ Cervical spine immobilization ○ Face or neck trauma
1		Correctly assemble all equipment required for Rescue Airway insertion within 60 seconds. *	Magill forceps, suction, suction catheters (flexible and rigid), stethoscope, Rescue Airways (King Airways), waveform capnography, pulse oximeter, BVM with manometer
1		Ensure optimal ventilation and oxygenation of the patient while Rescue Airway equipment is prepared. *	

While performing insertion of a Rescue Airway, the AEMT or paramedic must:

1		Minimize oral trauma during insertion by utilizing correct technique. *	Do not use the patient's teeth as a fulcrum.
1		Place the appropriately sized Rescue Airway securely per the manufacturer's instructions in the hypopharynx at the correct depth within 30 seconds. *	
1		Immediately re-establish PPV with the appropriate rate, tidal volume (minute volume), and oxygen at 10 – 15 LPM following Rescue Airway placement. *	

1		Confirm correct placement. *	<ul style="list-style-type: none"> • IMMEDIATELY attach waveform capnography and commence gentle bagging while confirming proper airway placement • Confirm appropriate rectangular waveform is present • Auscultate lung field and epigastrium • Print strip of capnogram and retain for documentation. • Observe for appropriate chest rise and fall.
1		Secure the Rescue Airway at the correct depth. *	Per manufacturer's instructions
1		Stabilize the patient's head to avoid movement and possible Rescue Airway dislodgement.	Stabilize patient's airway and prevent tube migration by using a device to prevent rotation, flexion, or extension of patient's head.
1		Efficiently employ post-Rescue Airway diagnostic tools to thoroughly assess overall effectiveness of ventilator support throughout the duration of respiratory management efforts.*	<ul style="list-style-type: none"> • Visualize symmetrical rise and fall of the chest with PPV. • Monitor pulse oximetry – the target is greater than 95% if spontaneous circulation is present. <ul style="list-style-type: none"> a. The target range is PETCO₂ level is between 30 – 45 mmHg if spontaneous circulation is present. b. In cardiac arrest, metabolic derangements will significantly alter PETCO₂ values and waveform morphology. Target range for ETCO₂ level is between 15 mmHg – 45 mmHg during CPR. c. Recognize that in a patient with traumatic brain injury, PETCO₂ less than 35 mmHg due to hyperventilation may actually cause harm. Minute volume should be adjusted accordingly while maintaining optimal oxygenation, reserving hyperventilation for those patients showing signs of cerebral herniation only. • Monitor ECG for dysrhythmia due to vagal stimulation or other treatable causes. • Frequent auscultation of lung fields and epigastrium. • Constant evaluation of ventilator compliance and resistance during PPV.
1		Re-implement effective PPV within 10 seconds following unsuccessful placement attempts. *	Rapidly transport patients to the closest most appropriate hospital when Rescue Airway placement is unsuccessful and airway patency is not secure.
1		Immediately identify malfunctioning equipment, ineffective techniques or changes in post-placement PPV compliance/resistance and employ alternative measures to achieve effective ventilations. *	
1		Reassess Rescue Airway placement each time the patient is moved and before transfer of care to hospital staff. *	Record and print the waveform ETCO ₂ strip prior to transfer of care to the hospital staff and attach the recording strip to the completed PCR.
1		Provide direction to personnel that have been delegated management of post intubation PPV. *	

1		Maintain effective ventilation and oxygenation throughout the entire pre-hospital treatment period. *	Target SpO ₂ is greater than 95%; target PETCO ₂ is 30 – 45 mmHg in a patient with spontaneous circulation.
1		Maintain calm and effectively lead a team-based approach to resuscitation under all conditions. *	
1		Accurately document all assessment findings, therapeutic treatments, and the patient's response to therapy.	

Critical Failure Criteria

- ___ Failure to take or verbalize BSI appropriate to the skill prior to performing the skill
- ___ Failure to initiate ventilations within 30 seconds after applying gloves or interrupts ventilations for greater than 30 seconds.
- ___ Failure to ventilate patient at a rate appropriate to patient age
- ___ Failure to provide adequate tidal volume per breath
- ___ Failure to pre-oxygenate patient prior to intubation attempt
- ___ Failure to successfully intubate within 2 attempts
- ___ Failure to disconnect syringe immediately after inflating cuff of Rescue Airway
- ___ Failure to assure proper tube placement by auscultation over lung fields and epigastrium
- ___ Failure to use waveform capnography
- ___ Failure to re-check tube placement after each patient movement and before transfer of care to hospital staff
- ___ Any procedure that would have harmed the patient